



Report prepared for: [Redacted]

For the Site of: Cheynes Farm, Warren Lane, Cottered, Herts, SG9 9QD

Version:	Written by:	Checked by:	Final:
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Cherryfield Ecology has prepared this report for the named clients use only.

Ecological reports are limited in shelf life, Natural England usually expect reports for licences to be from the most recent or current season. Therefore, should the project not proceed within 12 months of this report an updated survey should be undertaken in order to check for changes that may have occurred on site. Information is believed to be accurate at the time of survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

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Emergence and Activity Bat Survey (EBS)

0.0 Non-Technical Summary

0.1 Background

This report follows national guidelines Collins (2016) allowing for dusk and dawn surveys and recommends mitigation and compensation if considered necessary. If a deviation from the guidelines has been made, this will be detailed in the Method Section.

The following report details the findings and recommendations for the site of Cheynes Farm, Warren Lane, Cottered, Herts, SG9 9QD.

The client commissioned Cherryfield Ecology to undertake an EBS as the proposals include for the replacement of roof tiles and adding insulation, plus the construction of a new garden room.

0.2 Results and Findings

This report included for four dusk emergence surveys and one pre-dawn re-entry survey.

This includes:

Farmhouse (B1) - three surveys;

- Farmhouse kitchen (B2) - one survey;
- Cottage (B3) - one survey;
- Hall (B4) - one survey;
- Cart Lodge (B5) - one survey
- Storage Barns (B6) - two surveys.

The surveys have shown the emergence of a maximum of four common pipistrelle from the hall (B4) and a maximum of four common pipistrelle from the main house (B1). A maximum of one roost is present in B4 and a maximum of one roost is present in B1.

All the surveys show that the surrounding gardens are used by foraging and commuting bats.

0.3 Impact Assessment and Recommendations

Two bat roosts (day) for CP will be lost when works are carried out.

Two further surveys will be required on B4 in line with the guidelines provided by the Bat Conservation Trust.

Alternate roosts will need to be provided before development commences. A bat licence (Bat Mitigation Class) will be required post-grant of planning in order to allow the works on the roof to proceed lawfully. (Please refer to Section 4.3 of this report for further details).

The findings outlined in this report are valid for one year, after which updated surveys will be required.

Enhancements and mitigation are recommended (please see Section 4.3 for further details).

1.0 Introduction

1.1 Aim

The aim of this survey is to gather additional information from the site to establish species, population and entry/exit points of bats to aid in the design of mitigation and compensation for bats in the development. The information is used to help inform a licence application (if required) and to inform the client and their architect/planner of necessary changes in the design that may be required to ensure bats are protected during works. It should be read in conjunction with any Stage 1 survey such as a Preliminary Roost Assessment (PRA) that may have been undertaken.

1.2 Background Information

The client, Ian Hodges-Jackson, has commissioned Cherryfield Ecology to undertake an EBS for the site of Cheynes Farm, Warren Lane, Cottered, Herts, SG9 9QD. Planning permission is being sought for the replacement of roof tiles and adding insulation, plus the construction of a new garden room.

This survey has checked all buildings, trees (from ground level only) or structures due to be affected by the proposals for bats, signs of bats or habitat value e.g. crevices, gaps or holes that cannot be checked for a variety of reasons. In addition, surveyors have been positioned around the building, tree or structure to allow for emerging/re-entering bats to be watched for.

The inspections were conducted on the 04/08/2023, 10/08/2023, 11/08/2023, 18/08/2023 and 01/09/2023.

The survey can only ever provide a ‘snapshot’ of the site at the time of the survey and circumstances may change following this report. Health and Safety restrictions or obstructions may limit the ability to find or see emergence, re-entry and/or evidence. Biological records have been requested to give the report context and allow a study of the surrounds. The information is often sensitive and, therefore, a synopsis is provided. The survey can be conducted between May and September with the optimal season for surveying maternity colonies limited to mid-May to August inclusive, however it can also be limited due to bad weather, when bats are less active.

All 18 species of bat common in the UK (17 known to be breeding) are fully protected under the Wildlife and Countryside Act (as amended) 1981 through inclusion in Schedule V of the Act. All bat species in the UK are also included in Schedule II of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transpose Annex II of the Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“Habitats Directive”) which defines United Kingdom protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

Intentionally or deliberately kill, injure or capture bats.

Deliberately disturb bats, whether at roost or not.

Damage, destroy or obstruct access to bat roosts.

Possess or transport bats, unless acquired legally.

Sell, barter or exchange bats.

A bat roost is well-defined by the legislation as the ‘resting place’ of a bat. However, the word roost is used to describe this resting place and is generally accepted as the word describing where a bat or bats rest, feed or sleep.

2.0 Methods

The survey follows the national guidelines Collins (2016) and Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys (Bat Conservation Trust, May 2022) the following equipment is available for the inspection:

- Torches (e.g. LED Lensar type).

- Ladders (Standard 4m telescopic surveying ladder).

- Endoscope where holes, cracks and crevices are accessible.

- Mirrors (extendable and movable mirror face).

- Binoculars (Pentax close focus).

- Thermometer/hygrometer.

- Camera.

- Sample bags for collecting dropping and feeding evidence.

- Echo Meter Touch, EM3, and Pettersson D240X.

- IR night vision HD Camcorder, 12v IR flood lights.

- FLIR one Thermal Imaging Camera (when required).

Night Vision Aids (NVA's) are used to cover the building alongside surveyors. These are not designed to replace surveyors, rather provide night vision, allowing for more accurate survey effort and when found, roost locations. The cameras may not always capture bats entering/exiting roosts due to the size of the building, terrain, narrower field of view and other factors. Video is processed in Openshot video editor

and checked in the office after the survey is completed, stills and snapshots are taken and used in reports, as per the guidelines.

Surveyors are positioned around the building(s), tree or structure in order to cover all elevations. The survey then observes for emerging or entering bats from suitable features such as holes, cracks and crevices. Notes on commuting and foraging bats are also made in the surrounds.

If a deviation from the guidelines has been made, the reason and justification will be explained below:

No deviation from the standard guidelines has been made for this survey set.

2.1 Limitations

This survey provides a snapshot of the site at the time of the survey(s) only. Bats are highly mobile and can turn up from time to time unexpectedly. All care has been taken to ensure the results and recommendations are suitable to the context of the development and the information gathered on surveys.

Table 1: Habitat value (likelihood) of bat presence assessed against Collins (2016) guidelines Source: Adapted from Collins (2016) pp 35, Table 4.1.

Likelihood of bat presence (Habitat Value)	Features that bats can and will use, regardless of evidence being present.
Confirmed Bat Presence	Bats are found to be present during the survey. Evidence of bats is found to be present during the survey.
Higher likelihood of bat presence.	Pre-20th century or early 20th century construction. Agricultural buildings of traditional brick, stone or timber construction. Large and complicated roof void with unobstructed flying spaces. Large (>20 cm) roof timbers with mortice joints, cracks and holes. Entrances for bats to fly through. Poorly maintained fabric providing ready access points for bats into roofs, walls, bridges, but at the same time not too draughty and cool. Roof warmed by the sun, in particular south facing roofs. Weatherboarding and/or hanging tiles with gaps.

	<p>Low level of disturbance by humans.</p> <p>Bridge structures, follies, aqueducts and viaducts over water and/or wet ground.</p>
<p>Moderate and Lower likelihood of bat presence.</p>	<p>Modern, well-maintained buildings or built structures that provide few opportunities for access by bats.</p> <p>Small, cluttered roof space.</p> <p>Buildings and built structures comprised primarily of prefabricated steel and sheet materials.</p> <p>Cool, shaded, light or draughty roof voids.</p> <p>Roof voids with a dense cover of cobwebs and no sections of clean ridge board.</p> <p>High level of regular disturbance.</p> <p>Highly urbanised location with few or no mature trees, parkland, woodland or wetland.</p> <p>High levels of external lighting.</p>
<p>Negligible likelihood of bat presence.</p>	<p>No features suitable for roosting, minor foraging or commuting.</p>

Notes on using this table

1 The features listed here may not be indicative of use of the site by bats during winter or spring.

2 Pre-1914 buildings may present the greatest likelihood of providing roost space for bats due to their design, materials used and age. Pre-1990 buildings, especially when close to good foraging habitat, and with favoured features such as cavity walls and soffits, also have a high likelihood of providing roost sites for some bat species.

3 Post-1990 buildings are generally less likely than older buildings to house roosts; however, some modern designs provide access to suitable roosting spaces for bats. Pipistrelles in particular occupy modern buildings and built structures providing that there are suitable access gaps (> 8mm) and provided the structure has appropriate characteristics for roosting.

3.0 Results

The following section details the results of the desk study, inspection and survey; it includes MAGIC information, biological records data and map/aerial photo information. The results detail the building, structure or tree (numbered for reference) description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study is centered on Grid Reference - TL317291 and Postcode - SG9 9QD.

Table 2: Weather Records

Date	Survey	Time: from/to	Weather: Start	Weather: Finish
04/08/2023	Pre-Dawn	03:56 to 05:45 SS: 05:26	Temp: 14 °C Humidity: 96% Cloud: 98% Wind: 2/12 Precip: None	Temp: 14 °C Humidity: 91% Cloud: 100% Wind: 2/12 Precip: None
10/08/2023	Dusk Emergence	20:19 to 22:05 SS: 20:34	Temp: 23 °C Humidity: 60% Cloud: 40% Wind: 0/12 Precip: None	Temp: 21 °C Humidity: 60% Cloud: 40% Wind: 0/12 Precip: None
11/08/2023	Dusk Emergence	20:19 to 22:00 SR: 20:33	Temp: 21 °C Humidity: 63% Cloud: 98% Wind: 1/12 Precip: None	Temp: 19 °C Humidity: 73% Cloud: 91% Wind: 1/12 Precip: None

18/08/2023	Dusk Emergence	20:03 to 21:50 SR: 20:20	Temp: 19 °C Humidity: 83% Cloud: 80% Wind: 1/12 Precip: None	Temp: 19 °C Humidity: 87% Cloud: 80% Wind: 1/12 Precip: None
01/09/2023	Dusk Emergence	19:20 to 21:10 SR: 19:46	Temp: 19 °C Humidity: 81% Cloud: 70% Wind: 1/12 Precip: None	Temp: 17 °C Humidity: 87% Cloud: 75% Wind: 1/12 Precip: None

3.2 MAGIC

The following statutory sites and Natural England Protected Species (NEPS) have been located within the 2km search area (Figure 1).

Table 3: Magic search results

Receptor	Distance and Direction (m/Km)	Description
Statutory sites	n/a	n/a
Granted protected species licenses (bats)	~1775m southwest	Common Pipistrelle <i>Pipistrellus pipistrellus</i> (Licence 2013-5455)
	~1900m northeast	Common Pipistrelle and Brown Long-Eared <i>Plecotus auritus</i> (Licence 2012-4083)
Priority habitat	~750m northeast	Traditional orchard
	~1700m southwest	Coastal and floodplain grazing marsh
	~25m northwest	Wood-pasture and Parkland
	~275m south	Good quality semi-improved grassland
	~650m northwest	Deciduous woodland

MAGiC

Magic Map

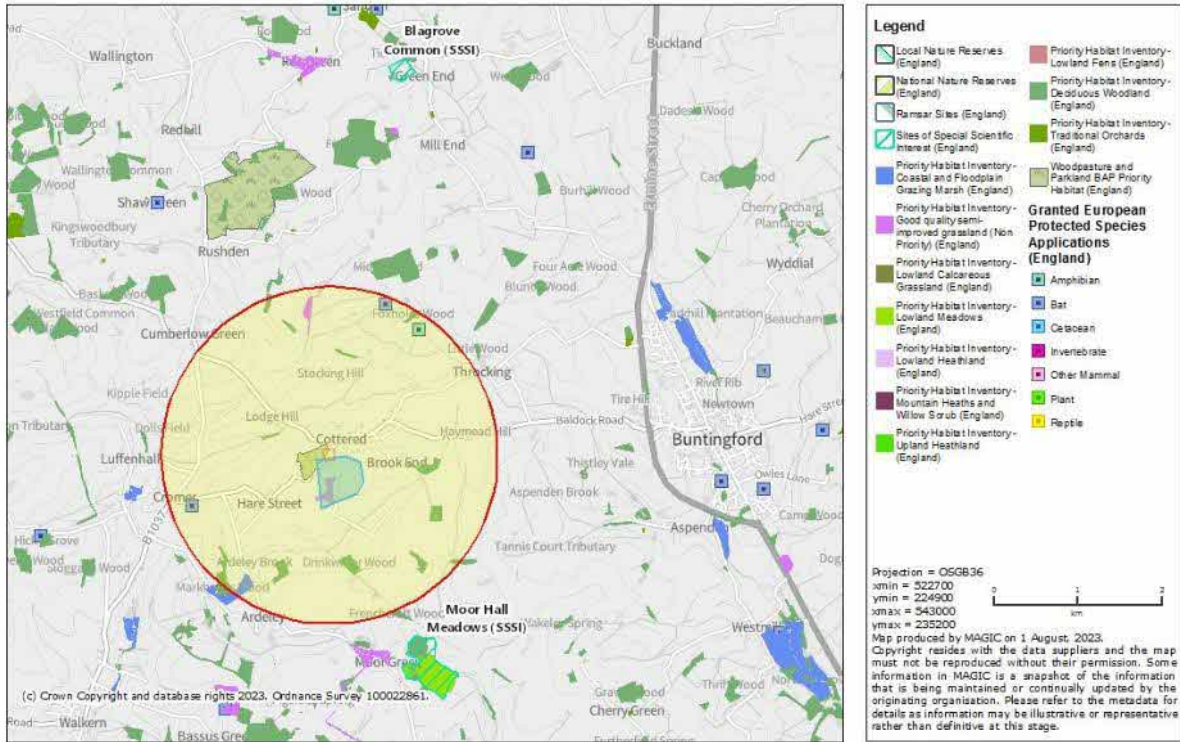


Figure 1: Magic Map Search

3.3 Site Location and Surrounds

The site is located in Cottered, Hertfordshire and is surrounded by low-density housing, pasture and arable fields in the immediate local area. Table 5 details the commuting, feeding and habitat features in a 1km radius of the site.

Table 5: Habitat features suitable for bat use.

Feature	Description
Water course	There are no significant water courses within the search area.
Water bodies	Six small water bodies are found throughout the search area, with the closest three being located approx. 144.96m northeast, 239.26m northeast and 479.74m northeast.
Woodland	A copse is located approx. 898.49m southeast.
Linear e.g. hedgerows	Field margin hedgerows dominate the search area, with garden hedgerows found to a lesser extent.
Pasture/arable/grassland	Meena Park is located approx. 403.10m northeast. Pasture dominates the search area, with arable fields found to a lesser extent.
Other	St John the Baptist Church and its cemetery is located approx. 78.45m north.

3.5 Building, Tree or Other Structure


The following section details the structure(s) reference, bats located, evidence located and observed emergence/re-entry (see Figure 7 for Site Plan).

Building/tree/structure reference - B1 (Main Building), B2 (farmhouse kitchen), B3 (cottage), B4 (hall), B5 (cart lodge), B6 (storage barns).

3.6 Observations

Table 6: Results and observations of the building, tree or structure.

Surveyor	Building, Tree or Structure	Dates, Times and Survey Type	Bat Activity Observed
PH	B1	04/08/2023 03:56 to 05:45 SS: 05:26 Pre-dawn	Common pipistrelle: Distant passes from 03:56 to 05:15
SD	B1	04/08/2023 03:56 to 05:45 SS: 05:26 Pre-dawn	Common pipistrelle: Pass from the southern boundary towards the northern boundary at 04:27. Distant 03:57 to 04:31.
CS	B6	04/08/2023 03:56 to 05:45 SS: 05:26 Pre-dawn	Soprano pipistrelle: Swarming activity around the barns but no re-entries from 04:05 to 04:37. Common pipistrelle: Feeding around the front drive from 04:16 to 04:37.
GG	B6	04/08/2023 03:56 to 05:45 SS: 05:26 Pre-dawn	Common pipistrelle: Distant passes from 04:01 to 04:52.
LB	B3	10/08/2023 20:19 to 22:05 SS: 20:34 Dusk	Common pipistrelle: Passes along the main road from 20:43 to 21:44. Myotis sp.: Pass along the main road at 21:30.
CF	B3	10/08/2023 20:19 to 22:05 SS: 20:34 Dusk	Common pipistrelle: Passes from the northern boundary towards the southern boundary from 21:11 to 21:48. Distant passes from 20:54 to 21:51.
JP	B2	10/08/2023 20:19 to 22:05	Common pipistrelle: Passes within the rear garden from the northern boundary to the southern boundary from 21:11 to 21:15.

		SS: 20:34 Dusk	Distant passes from 20:50 to 21:56.
EV	B3	10/08/2023 20:19 to 22:05 SS: 20:34 Dusk	Common pipistrelle: Distant passes from 21:10 to 21:52.
DR	B2	10/08/2023 20:19 to 22:05 SS: 20:34 Dusk	Common pipistrelle: Distant passes from 21:11 to 21:38.
PH	B4	11/08/2023 20:19 to 22:00 SR: 20:33 Dusk	Common pipistrelle: Three emergences from the eastern corner of B4 from the shiplap at 20:46 and 20:51. One emergence from the guttering on the eastern corner at 20:54 on B4.  Figure 2: emergence points.
ZH	B5	11/08/2023 20:19 to 22:00 SR: 20:33 Dusk	Common pipistrelle: Feeding activity around the trees on the northern boundary from 21:05 to 21:14.
TH	B4	11/08/2023 20:19 to 22:00 SR: 20:33 Dusk	Common pipistrelle: Feeding activity above B5 from 21:15 to 21:35. Distant passes from 20:43 to 21:43.
EV	B5	11/08/2023 20:19 to 22:00 SR: 20:33	Common pipistrelle: Feeding activity above B5 from 21:15 to 21:35. Distant passes from 21:02 to 21:54.


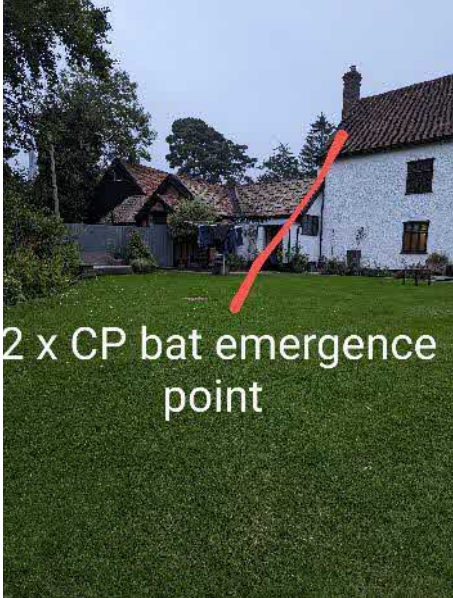
		Dusk	
JW	B1	<p>18/08/2023 20:03 to 21:50 SR: 20:20 dusk</p>	<p>Common pipistrelle:</p> <p>Two emergences from the tiles near the chimney stack on the southern elevation to the rear of the building at 20:30.</p> <p>Two additional emergences from the tiles near the chimney stack on the north-western elevation at 20:53.</p>  <p>2x CP emergence point</p>

Figure 3: emergences at 20:30.

			 <p>2 x CP bat emergence point</p>
			<p>Figure 4: emergence at 20:53</p> <p>Passes along the rear garden from 20:23 to 20:47.</p>
ZH	B6	<p>18/08/2023</p> <p>20:03 to 21:50</p> <p>SR: 20:20</p> <p>dusk</p>	<p>Common pipistrelle:</p> <p>Distant passes from 20:33 to 21:19.</p>
PH	B6	<p>18/08/2023</p> <p>20:03 to 21:50</p> <p>SR: 20:20</p> <p>dusk</p>	<p>Common pipistrelle:</p> <p>Feeding activity along the ridge of the barns from 20:29 to 21:12.</p>
ES	B1	<p>18/08/2023</p> <p>20:03 to 21:50</p> <p>SR: 20:20</p> <p>dusk</p>	<p>Common pipistrelle:</p> <p>Passes along the ridge of B1 from 20:52 to 21:24.</p>
CS	B1	<p>19:20 to 21:10</p> <p>SR: 19:46</p>	<p>Common pipistrelle:</p> <p>Passes within the front drive from 20:09 to 20:41.</p>
EM	B1	<p>19:20 to 21:10</p> <p>SR: 19:46</p>	<p>Common pipistrelle:</p> <p>Passes within the rear garden from 20:09 to 20:45.</p>

Summary of surveys and supplementary observations:

04/08/2023 - no re-entries. common pipistrelle swarming activity recorded and general activity recorded.

10/08/2023 - no emergences recorded. General activity recorded.

11/08/2023 - three emergences out of B4. General activity recorded.

18/08/2023 - four emergences out of B1. General activity recorded.

01/09/2023 - no emergences. General activity recorded.

Any other protected species that would be affected by the development:

n/a

IR at the darkest point (one per survey):



Figure 5: IR still 11/08/2023 (B4)



Figure 6: IR still at 18/08/2023 (B5)

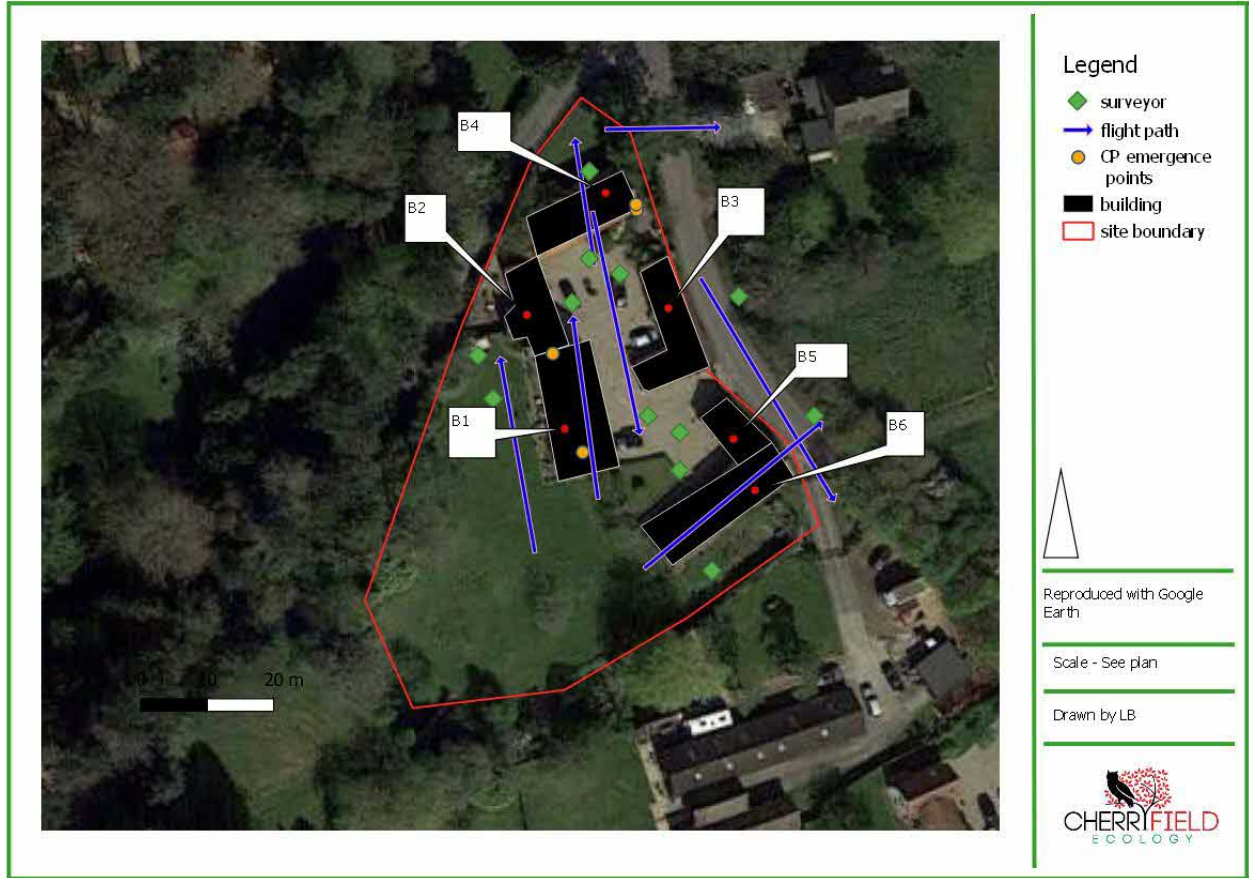


Figure 7: Site Plan

4.0 Conclusions, Discussion, Impacts and Recommendations

The following section details the conclusions, discussion and recommendations in the context of the proposed works.

Building/tree/structure reference - B1 (Main Building), B2 (farmhouse kitchen), B3 (cottage), B4 (hall), B5 (cart lodge), B6 (storage barns)

4.1 Conclusion and Discussion

The client commissioned Cherryfield Ecology to undertake an EBS as the proposals include for the replacement of roof tiles and adding insulation, plus the construction of a new garden room.

This report included for four dusk emergence surveys and one pre-dawn re-entry survey.

This includes:

Farmhouse (B1) - three surveys;

- Farmhouse kitchen (B2) - one survey;
- Cottage (B3) - one survey;
- Hall (B4) - one survey;
- Cart Lodge (B5) - one survey
- Storage Barns (B6) - two surveys.

The surveys have shown the emergence of a maximum of four common pipistrelle from the hall (B4) and a maximum of four common pipistrelle from the main house (B1). A maximum of one roost is present in B4 and a maximum of one roost is present in B1.

All the surveys show that the surrounding gardens are used by foraging and commuting bats.

4.2 Potential Impact

Impact assessments must be proportionate to the scale of the development (CIEEM, 2018) and the following details a proportionate impact assessment based on current information.

Table 7: Impact Assessment.

Impact	Two day bat roosts will be lost in the development.
Characterisation of unmitigated impact on the feature	Two bat roosts will be destroyed when works are carried out resulting in a low-level loss/impact at a local level.
Effect without mitigation	Without mitigation individual bats could be killed, injured or trapped during the works.
Mitigation and or enhancement	See Table 8 and 9
Significance of effects of residual impacts (after mitigation)	If lost roosts are replaced by bat boxes, the effects would be negligible.

4.3 Recommendations

The following table details the recommended mitigation and compensation required; it also recommends for a Natural England Protected Species Licence (NEPSL) to be applied for.

Two further surveys will be required on B4 in line with the guidelines provided by the Bat Conservation Trust.


License type required: Bat Mitigation Class

Roost type: Day

Table 8: Mitigation and Compensation.

Work	Specification
General Information	<p>A Natural England Protected Species Licence must be applied for in order to allow the works to proceed, post-grant of planning.</p> <p>The Three Tests to be answered before planning can be granted (NE, 2017):</p> <p>Test 1: Regulation 53(2)(e) states: a licence can be granted for the purposes of “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.</p>

	<p>Test 1 can be achieved via the ‘imperative reasons of overriding public interest’.</p> <p>Although not for the ecologist to determine the planning officer will on grant of consent.</p> <p>Test 2: Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied “that there is no satisfactory alternative”.</p> <p>Test 2 would be achieved on the grant of consent as no other sites have been considered for the development.</p> <p>Test 3: Regulation 53(9) (b) states: the appropriate authority shall not grant a licence unless they are satisfied “that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.”</p> <p>Test 3 will be achieved once full mitigation appropriate to species and population has been designed and implemented via an NEPS licence issued from the statutory authority (Natural England).</p>
<p>Roof and tile linings</p>	<p>‘When a bat roost is present and being mitigated/compensated we advise that the type of linear for the tiles/roof used is a bitumen type 1 traditional felt.</p> <p>The reasoning for this is twofold; firstly, bats can damage the Modern Roofing Membrane (MRM), meaning that the MRM will become useless allowing water to pass through from above and, secondly, bats will become trapped in the fibres and die from dehydration and starvation.</p> <p>There is no reason that building regulations will not allow a traditional ‘cold roof’ and, therefore, this should be designed into any project where bats will be able to access the roof/loft or hung tile/weather boarding etc. etc.</p> <p>However, Natural England will accept an MRM being used in a bat roost under the following circumstances -</p> <p>The MRM must have passed the testing regime set out in Essah et al (2020) and a certificate must be provided as proof of this.’ Natural England will accept an MRM being used in a roost of any type with evidence of the MRM having passed the propensity snagging test.</p>
<p>Mitigation and compensation to be installed</p>	<p>Bat Mitigation Class Licence:</p>

<p>via a Bat Mitigation Class or Standard Licence application</p>	<p>Works can occur at any time under a Bat Mitigation Class Licence (BMCL) once granted from Natural England.</p> <p>Any works to the roof will require the supervision of a bat licensed ecologist. The suitable roosting features will be stripped by hand only. All areas within the roof/wall tops will be checked for bats i.e. endoscope (were possible). If bats are found, these will be removed by hand and placed in bat boxes that will be in place before works begin.</p> <p>Bat boxes will be installed on retained trees or buildings; it is currently understood that there are trees to the rear of the dwelling (within the garden of the main house) that can be used for this purpose.</p> <div data-bbox="787 766 1047 1165" data-label="Image">  </div> <p>Figure 8: Chillon Woodstone Bat Box (British-made)</p> <p>A minimum of two Chillon Woodstone bat boxes will be hung on the trees or the building at a minimum of 3m from ground level and face south/southwesterly. These boxes are known to be used by Brown Long-Eared bats (BLEB) and crevice-dwelling species.</p> <p>No further mitigation or compensation is required under this licence. Commuting bats were using the grounds and surrounds; therefore, any tree, hedges or linear feature should be retained if possible.</p>
<p>Lighting</p>	<p>Any lighting near or shining onto any trees, especially those with bat boxes in or commuting routes shown to be present during the surveys, will be designed to minimise the impact it has on potential bat roosting and commuting.</p>

	<p>Lighting will be in line with the BCT lighting guidelines (Bats and Lighting in the UK (Bat Conservation Trust, 2018) https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/)</p> <p>This lighting where possible will be of low level, be on downward deflectors and be on PIR sensors. Using LED directional lighting can also be a way of minimizing the light spill affecting the habitat. No up-lighting should be used. Light spill must be minimized to 0.5lux.</p> <p>This will ensure that the roosting and commuting resources that the bats are likely to be using is maintained.</p>
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The local planning authority have a duty to impose enhancements. The following table details the affordable and simple enhancements suitable for the site (Table 9).

Table 9: Enhancements to allow a net gain for protected species.

Work	Specification
Enhancements to provide a net gain as per the LPA's duty.	<p>A minimum of two Chillon Woodstone bat boxes or similar boxes (Figure 9) will be hung on the trees at a minimum of 3m from ground level and face south/southwesterly. These boxes are known to be used by crevice and void dwelling species.</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Figure 9: Chillon Woodstone Bat Box (British-made)</p>

5.0 References

- CIEEM (2018), Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, September 2018. Chartered Institute of Ecology and Environmental Management, Winchester, online at <https://www.cieem.net/data/files/ECIA%20Guidelines.pdf>
- Collins, J. (ed) (2016), Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition, BCT, London Mitchell-Jones, A. J. (2004), Bat Mitigation Guidelines. English Nature.
- Eassah et al (2020), Method for evaluating the snagging propensity of roofing membranes in buildings by roosting bats, online at tandfonline <https://centaur.reading.ac.uk/90562/1/BRI-20BR2180-RE.R1-Accepted%20Version.pdf>
- Google Earth (2022), Located on site postcode, online
- MAGIC (2022): Magic maps, NEPS licences and designated sites, online <http://www.magic.gov.uk/Login.aspx?ReturnUrl=%2fMagicMap.aspx> accessed at report date.
- Mitchell-Jones, A.J. (2004), Bat Mitigation Guidelines, English Nature, Peterborough National Planning Policy Framework, 2017 <http://www.communities.gov.uk/publications/planningandbuilding/nppf>
- Office of the Deputy Prime Minister (2005), Circular 06/2005: Biodiversity and Geological Conservation. Para.99

<http://www.communities.gov.uk/documents/planningandbuilding/pdf/147570.pdf>